

**SUBJECT-MATHEMATICS**

**CLASS-X**

**Chapter:- Linear Inequations**

**Assignment:**

**Date-22.04.20**

**Inequalities among real numbers-**

Let a, b any real numbers, then

1. a is less than b, written as  $a < b$ , iff  $b - a$  is +ve.
2. a is less than or equal to b, written as  $a \leq b$ , iff  $b - a$  is either +ve or zero.
3. a is greater than b, written as  $a > b$ , iff  $a - b$  is +ve.
4. a is greater than or equal to b, written as  $a \geq b$ , iff  $a - b$  is either +ve or zero.

A linear inequation in one variable can always be written as  $ax + b < 0$ ,  $ax + b \leq 0$ ,  $ax + b > 0$  or  $ax + b \geq 0$

Example 1. Solve the inequation  $3 - 2x \geq x - 12$ , given that  $x \in \mathbf{N}$ .

Ans. Given  $3 - 2x \geq x - 12$

$$\Rightarrow -3 + 3 - 2x \geq x - 12 - 3 \quad (\text{add } -3)$$

$$\Rightarrow -2x \geq x - 15$$

$$\Rightarrow -2x - x \geq x - 15 - x$$

$$\Rightarrow -3x \geq -15$$

$$\Rightarrow x \leq 5 \quad \text{but } x \in \mathbf{N} \text{ i.e. } x \in \{1, 2, 3, \dots\}$$

Hence, the solution set is  $\{1, 2, 3, 4, 5\}$ .

Example 2. If  $x \in \mathbf{W}$ , find the solution set of  $\frac{3}{5}x - \frac{2x-1}{3} > 1$ .

Ans. Multiplying both side by 15, we get

$$9x - 5(2x - 1) > 15$$

$$\Rightarrow -x > 15 - 5$$

$$\Rightarrow -x > 10$$

$$\Rightarrow x < -10$$

But  $x \in \mathbf{W}$ ,

Hence the solution set is  $\phi$ .

**HOME WORK-**

Q1. Solve  $\frac{2x-3}{4} \geq \frac{1}{2}$ ,  $x \in \{0, 1, 2, \dots, 8\}$ .

Q2. Solve  $1 \geq 15 - 7x > 2x - 27$ ,  $x \in \mathbf{N}$ .

Q3. Solve the inequation  $-3 \leq 3 - 2x < 9$ ,  $x \in \mathbf{R}$ .

Q4. Solve the inequation and graph the solution on number line:  $2y - 3 < y + 1 \leq 4y + 7$ ,  $x \in \mathbf{R}$ .

**(Wed) Class-X, EVS, Ch-4, .....**

**Topic( Managing soil and land)**

Home Assignment....

- 1) What do you mean by Soil?
- 2) What is the difference between healthy and unhealthy soil.
- 3) Why is soil management so important?
- 4) How do we manage soil?
- 5) What to you mean by soil fertility?

...(To be continued next class...)

## Economics of class 10

### Assignment

Ch-1 Factors of production:

Q1: What is production?

Q2: What are the factors of production?

Q2: What is a land?

Q3: What is labour?

Q4: What is a capital?

Q5: What is an entrepreneur?



## Class-10

### वह जन्मभूमि मेरी

**Q1) झरने अनेक झरते.....वह मातृभूमि मेरी।**

**क) इस पद्यांश में कवी ने 'पवन' की क्या विशेषता बतायी है?**

**उ:** इन पंक्तियों में 'पवन' के विषय में कहा है कि भारत भजमी की पहाड़ियों में चन्दन आदि के अनेक सुगन्धित पेड़ पौधे हैं। उन पहाड़ियों से होते हुए सुगन्धित हवा बहती रहती है जो हमारे देशवासियों के तन मन को प्रफुल्लित करती है।

**ख) कवि ने भारत भूमि को धर्म भूमि और कर्म भूमि क्यों कहा है?**

**उ:** कवि के अनुसार -हमारी भारत भूमि धर्मात्माओं और कर्म में विश्वास रखने वाले महापुरुषों की भूमि है। कवी कहते हैं कि जिस भूमि का वह वर्णन कर रहे हैं वह उनकी धर्म भूमि है क्योंकि वह उन्हें धर्म के मार्ग पर चलने के लिए प्रेरित करती है। वह उनकी कर्मा भूमि है क्योंकि वह उन्हें इस कर्मा प्रधान संसार में निरंतर कर्मा करने के लिए प्रेरित करती है।

**ग) कवि ने देश की प्राकृतिक सौंदर्य का वर्णन किस प्रकार किया है?**

**उ:** कवि ने भारत भूमि के प्राकृतिक सौंदर्य का सुन्दर व मोहक वर्णन किया है। हिमालय पर्वत की सुंदरता का वर्णन करते हुए कहते हैं कि उसकी छोटी छोटी पहरियों में अनेकों झरने हैं जो निरंतर झरते रहते हैं। झाड़ियों में चिड़ियों का कलरव सुनाई पड़ता है। स्थान स्थान पर अमो के बाग़ दिखाई देते हैं जब आमो पर बौर आते हैं तब कोयल की सुरीली आवाज सुनाई परती है। मलय पर्वत से आने वाली शीतल मंद वायु सबको मंत्रमुग्ध कर देती है और जान मानस का हृदय प्रसन्नता से भर जाता है।

### **Homework-**

**"जन्मे जहा थे रघुपति.....वह मातृभूमि मेरी।"**

**क) किन किन लोगों के कारण देश महान हुआ है? कविता के आधार पर लिखें।**

**ख) गौतम बुद्ध ने देश का यश कैसे बढ़ाया?**

**ग) राम, सीता, व कृष्णा का देश के इतिहास में क्या महत्व है?**

**घ) कविता का सन्देश लिखें।**

**CLASS-X**

**SUBJECT – GEOGRAPHY**

**CHAPTER-WATER RESOURCES (Second Part)**

**ASSESSMENT-4**

• **Well Irrigation**

It is an old method of irrigation. About 40% area is irrigated by well irrigation.

- Types: -
1. Surface Wells
  2. Tube Wells

1. Surface Wells:- Such wells are normally constructed where the water level is high. These are cheaper to dig and are essentially used for irrigation.

**Advantages**

1. It is the simplest and cheapest source of irrigation.
2. Well is an independent source of irrigation.
3. Well can be dug at any convenient place
4. The farmers don't have to pay for well irrigation.

**Disadvantages**

1. They can dry up during summer.
2. They can irrigate only a small area.

**Areas**

Surface well irrigation is popular in northern plains. Most popular states are UP, Haryana, Punjab, Bihar, West Bengal and Gujarat.

2. Tube Wells:- A tube well is a bore well which is dug deep in the ground with the help of drilling machine, also power supply is essential to pump water from well.

### Essential condition for construction of tube well

1. Water level should be high

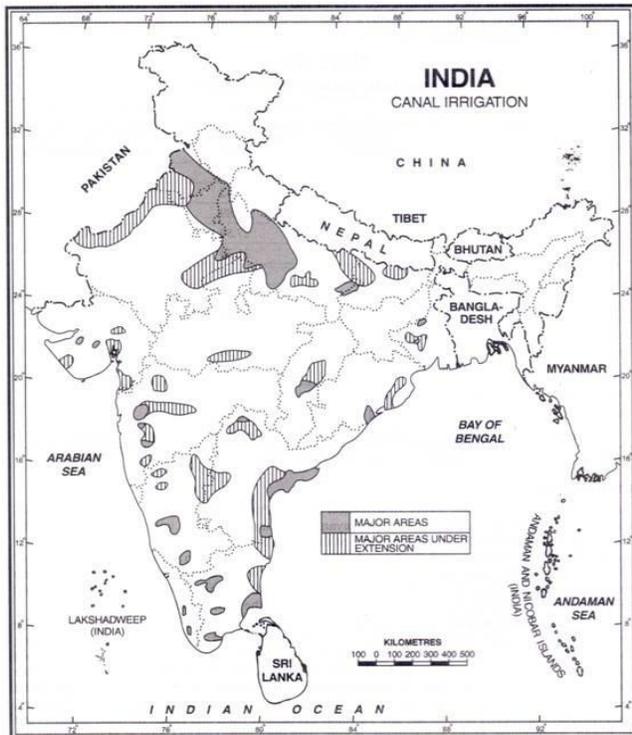


FIG. 17.4. India : Canal Irrigation

2. The ground should be made up of soft alluvial soil.

3. Adequate rainfall is needed to replenish the ground water.

4. Cheap hydroelectric power must be available for using the pump.

### Advantages

1. In drought situation tube well is very helpful.

2. Large area can be irrigated than the surface well.

3. They do not cause any pollution.

4. They occupy less area as compared to the surface well.

### Disadvantages

1. They irrigate less area than the area irrigated by canals.
2. Farmers have to spend money on electricity or on diesel.
3. Sometimes depletion of water also takes place in the surrounding areas.
4. In the time of drought irrigation is not available due to falling of water table.

### Areas

They are used extensively in UP, Bihar, Punjab, Haryana, Gujrat and Andhra Pradesh.

## Modern Methods of Irrigation



by seepage or evaporation in this technique.

2. It is the best method of water conservation.
3. This method is best for arid or semiarid region.
4. Water management is easier than other methods.
5. It has higher application efficiency.

### Disadvantage

1. Initial cost is high.
2. Operational and maintenance cost is also high.
3. Salinity of water can cause problems.
4. For all crops, this process is not suitable.
5. Water must be sand, salt, and particle free.

### • Sprinkler Irrigation

It is a method that delivers water to the fields by using a sprinkler. This system includes the application of water in the form of a spray.

### Advantages

1. Water cannot waste



- **Dip Irrigation**

It is also known as trickle irrigation. In this process water is taken directly to the roots of the plant or trees

### Advantage

1. Loss of fertilizer and nutrients can be minimized by this irrigation.
2. Water application efficiency is high.
3. Less soil erosion occurs.
4. Proper moist use of the soil can be maintained.
5. Recycled water can be used.
6. Wastage of water can be checked.
7. It minimized the wastage of fertilizers.
8. Use of energy resource is also less and cost also less.

### Disadvantage

1. Initial cost is more than the future cost.
2. In the absence of proper maintenance, clogging occurs.

- **Bamboo irrigation-**

This system employs the principle of gravity. About 20 liters of water enters the bamboo pipe system and transported over hundreds of meters. It is a popular method of North East India such as Meghalaya.

### Advantages

1. No need of fuel or power supply.
2. Where bamboo is available there this process can be carried on.

### Disadvantages

The whole network needs to be rebuilt after 2-3 years.

### **Assignment Questions-**

1. Name two states in which well irrigation is widely used. Write two advantages of it.
2. Name two states in which tube wells are extensively used.
3. Write the advantages of tube well irrigation.
4. Mention two conditions or factors which are important for the development of tube well irrigation.
5. Nowadays sprinkler irrigation is a popular means of irrigation – give reasons.
6. Write two advantages of drip irrigation.

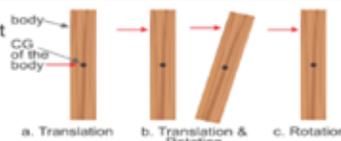
CLASS-X  
SUBJECT-PHYSICS  
CHAPTER-1: FORCE

**Newton's second law of motion**

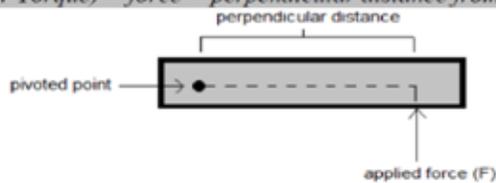
Force  $F$  = rate of change of momentum =  $\frac{dp}{dt} = \frac{d(mv)}{dt} = ma$  (a= acceleration, m=mass)

**Translational and Rotational Motion**

- If a force is applied at the midpoint of a free, rigid, uniform object, it will slide the object such that every point moves an equal distance. The object is said to translate.
- If the same force is applied at some other point as in (fig. b), then the object will both translate and rotate.
- If the midpoint of the object is pivoted, (fig. c) then the applied force causes only rotational motion.



*Moment of force (or Torque) = force × perpendicular distance from axis of rotation (or pivoted point)*



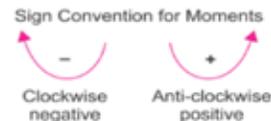
**Units of moment of force**

S.I. unit of moment of force = Units of force × Unit of distance = newton × metre = N m  
C.G.S. unit = dyne × cm

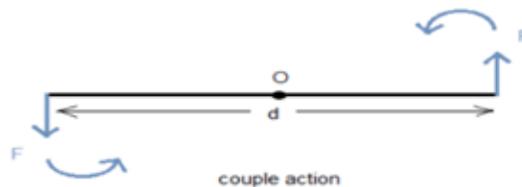
**Clockwise and Anticlockwise Moments**

The direction of turning produced on the body depends on the point of application of the force and on the direction of the force.

If the turning effect on the body is anticlockwise, moment of force is called **anticlockwise moment** and it is considered **positive**.  
If the turning effect on the body is clockwise, moment of force is called the **clockwise moment** and it is considered as **negative**.



*Moment of couple = Either force × perpendicular distance between two forces*



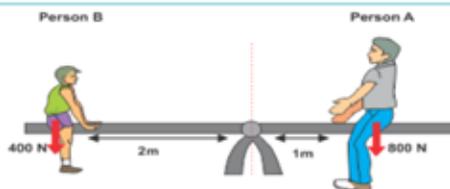
**Principle of Moments**

If a body is in equilibrium under the action of a number of forces, then the algebraic sum of the moments of the forces about any point is equal to zero.

When the body is in equilibrium,

Sum of the clockwise moments = Sum of the anticlockwise moments

**A physical balance works on the principle of moments.**



e.g. Person A's Moment = Force x perpendicular distance from fulcrum,  
 $800 \times 1 = 800 \text{ N m}$   
Person B's Moment = Force x perpendicular distance from fulcrum,  
 $400 \times 2 = 800 \text{ N m}$

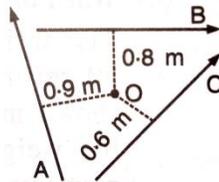
**Persons A's moment = Persons B's Moment**  
**Anticlockwise moment = Clockwise moment**  
Therefore the seesaw is in equilibrium.

CLASS-X  
SUBJECT-PHYSICS  
ASSIGNMENT-5  
CHAPTER-1: FORCE  
(F.M.-10)

*Answer the following questions*

*(Question No-1 carries 1 mark, 2 carries 2 marks, 3 carries 3 marks, 4 carries 4 marks)*

1. State the condition when a body has the rotational motion.
2. A spanner (or wrench) has a long handle. Why?
3. A, B and C are three forces each of magnitude 4N acting in the plane of paper as shown in the figure below. The point O lies in the same plane.
  - (i) Name the forces which has (a) the greatest moment and (b) the least moment about O?
  - (ii) Name the forces producing (a) clockwise, (b) anticlockwise moments.
  - (iii) What is the resultant torque about the point O?



4. A uniform meter rule of mass 100 g is balanced on a fulcrum at mark 40 cm by suspending an unknown mass 'm' at the mark 20 cm.
    - (i) Find the value of 'm'.
    - (ii) To which side the rule will tilt if the mass m is moved to the mark 10 cm?
    - (iii) What is the resultant moment now?
    - (iv) How it can be balanced by another mass of 50 g?
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DREAMLAND SCHOOL  
CLASS X  
ENGLISH LANGUAGE  
HOME ASSIGNMENT 3  
ACADEMIC YEAR-2020-21

Date 22<sup>nd</sup> April 2020

I. Now that you are in class X the time has come for you to take the decision about what stream to choose in your next class. Write a letter to your sister telling her about your decision and the reasons behind such a decision. You may also ask her to advise you.

II. Fill in each blank with the appropriate form of the word given in brackets:

As the alarm \_\_\_\_\_ [ring] , I \_\_\_\_\_ [jump] out of bed. Today \_\_\_\_\_ [ be] a special day. It \_\_\_\_\_ [ be] the 2<sup>nd</sup> of March, my birthday. I \_\_\_\_\_ [ go] to the bathroom and \_\_\_\_\_ [wash] my face. I \_\_\_\_\_ [excite] and my heart \_\_\_\_\_ [ dance] with joy.

III. Join the following sentences without using 'and', 'but', 'so':

1. Meena gave me a cake. I was unable to eat it.
  2. Arun helped Alok. He will always be grateful.
  3. I heard you lost your father. I am very sorry.
  4. The streets were flooded. But Kusum reached the station on time.
  5. The snowfall was heavy. The cars moved slowly.
  6. I was eating chocolates. She kept on staring.
  7. Sudha lost her leg in an accident. She kept on dancing.
  8. Arun taught Chemistry. He had to conduct experiments.
  9. I warned Kiran She ignored me.
  10. Amit is a doctor's son. He is studying medicine.
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